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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,638	07/23/2003	Takeshi Hamada	240570US3	6891
22850	7590	09/20/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			PAHNG, JASON Y	
			ART UNIT	PAPER NUMBER
			3725	
DATE MAILED: 09/20/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/624,638

Applicant(s)

HAMADA ET AL.

Examiner

Jason Y. Pahng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-12 remain rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, as set forth in the last Office action.

Note that following are only some examples. The entire claims must be reviewed and corrected, as set forth in the last Office action.

With regard to claim 1, the determination of the path of material is critical to the understanding of the invention, but there is not enough structure to understand the flow of the material at all, as set forth in the last Office action. There is no relationship between the "inlet" (line 12) and the "stationary concave liner." There is also no relationship between the "inlet" (line 12) and the "mantle liner."

With regard to claims 1 and 11, line 4, the vertical axis is indefinite. A vertical axis is never defined in the claim. First, a vertical axis must be defined first in relation to at least one claimed element, before the vertical axis is referenced. Furthermore, a movable element approaching a concave liner and separating therefrom about an axis is incomprehensible. How does an element A approach and separate from an element B about an axis?

With regard to claim 1, a first area surface (line 11), a second area surface (line 15), and a third area surface (line 17) are indefinite, as set forth in the last Office action. What is the relationship between a first area surface and the first region? A first region inherently comprise an infinite number of first area surfaces which are located at the first region. These infinite number of first area surfaces have an infinite number different lengths of an infinite number of T. The second area surface and the third area surface are indefinite for the same reason as the first area surface.

With regard to claim 1, lines 11 and 12, while there are directions of movement of crush material, "the direction of movement of the crush material" has no antecedent basis because there is no definite single direction of movement of the crush material defined in the claim.

With regard to claim 1, the length of the first area surface (line 11) is indefinite because the definite single direction to measure the length is indefinite.

With regard to claim 1, line 26, "the horizontal plane" has no antecedent basis.

With regard to claim 11, line 13, "the horizontal plane" has no antecedent basis.

With regard to claim 1 as amended, "the inlet side of the first region" (line 23) and "the inlet side of the second region" (lines 28 and 29) have no antecedent basis. What is the relationship between the first region and the inlet side? What is the relationship between the second region and the inlet side? The inlet side is never defined in the claim.

With regard to claim 1, line 26, the horizontal plane is indefinite. The horizontal plan is never defined in the claim. The horizontal plane must be defined first in relation

to an element before the inclination angle of a first tapered surface is compared to the horizontal plane.

With regard to claim 1, the inclination angle of the first tapered surface (line 25) and the third tapered surface (line 31) are indefinite because the horizontal plane is indefinite.

With regard to claims 1 and 11, the structure of the “a stationary concave liner” in line 2 is not clear and unnecessarily confusing. The stationary liner according to Figure 1 is not concave. Therefore, the word “concave” is misleading. It is suggested that the phrase be changed to, “a stationary liner with a tubular shape,” as set forth in the last Office action. Applicant points to Figure 1 in the response. Isn't the shape of the stationary liner in Figure 1 convex? Therefore, the structure of “a stationary concave liner” remains unclear.

With regard to claims 3, 4, 5, and 6, the length is indefinite because the definite single direction, of movement of the crush material, to measure the length is indefinite.

With regard to claims 7, 8, 9, and 10, “the curvature radius” has no antecedent basis. Any two surfaces do not define a single definite curvature radius.

Claim 11 is hopelessly undefined.

With regard to claim 11, all angles are indefinite.

What is an angle (line 12) between the crushing surface of a mantle liner in a first region and a plane? In other words, what is an angle between a surface A and a plane B? What is an angle between a surface of a golf ball and a horizontal plane?

What is an angle between two surfaces? What is an angle between a surface of a golf ball and a surface of a foot ball?

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-12, as well as can be understood, remain rejected under 35 U.S.C. 102(b) as being anticipated by Savolainen (US 6,581,860), as set forth in the last Office action and repeated below.

Savolainen discloses a cone crusher with a “stationary concave liner” or a second crushing head (3) and a “mantle liner” or a first crushing head (2).

With regard to claims 1 and 11, all the limitations are found in the shape of Savolainen’s first crushing head (2) and second crushing head (3) in Figure 1. For example, it is inherent that the first crushing head (2) has a first area surface.

Furthermore, many different angles can be found in the first crushing head (2) and the second crushing head (3).

With regard to claim 1, Savolainen discloses a first region, a second region, and a third region of a crushing chamber in Figure 1. Savolainen also discloses a first area surface at the first region, a second area surface at the second region, and a third area

surface at the third region of a crushing chamber in Figure 1. Savolainen also discloses a predetermined length for the first area surface in Figure 1.

With regard to claim 1, Savolainen also discloses in Figure 1, a first tapered surface, wherein a length of a perpendicular line from said first area surface to said first tapered surface at the inlet side of said first region is greater than T, a cross angle of said first tapered surface is less than 20 degrees with respect to said first area surface, and an inclination angle of said first tapered surface is greater than 60 degrees relative to the horizontal plane.

With regard to claim 2-10, the limitations of each claim are disclosed by Savolainen in Figure 1. Savolainen's "stationary concave liner" (3) or "mantle liner" (2) can be expressed in innumerable areas and innumerable angles. Therefore, the limitations of each claim are disclosed by Savolainen.

For example, with regard to claims 2, Savolainen discloses various surfaces, including surfaces such as a third tapered surface. Furthermore, Savolainen discloses various angles, including angles such as 2 degree or 3 degrees.

For another example, with regard to claim 3, Savolainen discloses in Figure 1, a second area surface and a third area surface, as well as any other various surfaces, both with a predetermined length, such as T.

With regard to claim 12, Savolainen discloses in Figure 1, 90 degree, 57 degree, and 62 degree angles, as well as any other various angles, in the "stationary concave liner" or the second crushing head (3).

Response to Arguments

Applicant's arguments filed on June 27, 2005 have been fully considered but they are not persuasive.

Applicant argues that Examiner incorrectly assumed that any region inherently has "an infinite number of area surfaces." However, that is not true. Examiner is merely pointing out that a region has many areas with many different corresponding length. For example, Virginia region has many areas of counties with different length. For another, a cube crushing region might have six surface areas.

Figure 1 of reference Savolainen completely identifies and fully discloses all features claimed. Therefore, all claims are rejected under 35 U.S.C. 102 in view of Savolainen.

Additionally, with regard to the 35 U.S.C. 112 issues, all claims are hopelessly indefinite. As one example, Applicant argues that the direction of the length of the first area is the direction of movement of the crush material. However, what is the single direction of movement of the crush material from an inlet to an outlet? Does the crush material move in a straight line? Does it curve? Is the direction related to an angle of the inlet? Is the direction related to an angle at the outlet? Is the direction related to a combination of the angle of the inlet and the outlet?

Conclusion

This is a Request for Continued Examination of applicant's earlier Application No. 10/624,638. All claims are drawn to the same invention claimed in the earlier

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application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

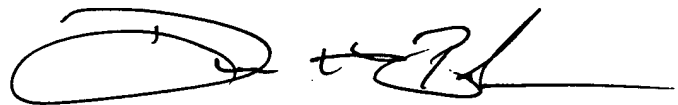
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Y. Pahng whose telephone number is 571 272 4522. The examiner can normally be reached on 9:00 AM - 7:00 PM, Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached on 571 272 4419. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JYP

A handwritten signature in black ink, appearing to read 'D. Banks', with a large, stylized initial 'D' and a horizontal line extending to the right.

DERRIS H. BANKS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700